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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,631	11/18/2003	Jin-Seung Sohn	Q78520	3244
23373 7590 03/21/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER	
			MILLER, BRIAN E	
			ART UNIT	PAPER NUMBER
			2627	
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SHORTENED STATUTOR	Y PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE	
, 3 MO	NTHS	03/21/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<del></del> -		Application No.	Applicant(s)
		10/714,631	SOHN ET AL.
	Office Action Summary	Examiner	Art Unit
		Brian E. Miller	2627
Period fo	The MAILING DATE of this communication app	ears on the cover sheet with the	correspondence address
A SH WHIC - Exte after - If NO - Failu Any	ORTENED STATUTORY PERIOD FOR REPLY CHEVER IS LONGER, FROM THE MAILING DANS IN THE MAIL	ATE OF THIS COMMUNICATION  36(a). In no event, however, may a reply be to the apply and will expire SIX (6) MONTHS from the application to become ABANDON	ON.  Imply filed  m the mailing date of this communication.  IED (35 U.S.C. § 133).
Status			
2a)	Responsive to communication(s) filed on 26 De This action is <b>FINAL</b> . 2b) This Since this application is in condition for allower closed in accordance with the practice under E	action is non-final.  nce except for formal matters, p	
Disposit	ion of Claims		
5)□ 6)⊠ 7)□	Claim(s) 155-176 is/are pending in the applicate 4a) Of the above claim(s) 159,160 and 175 is/a Claim(s) is/are allowed.  Claim(s) 155-158,161-174 and 176 is/are reject Claim(s) is/are objected to.  Claim(s) 155-176 are subject to restriction and	re withdrawn from consideration	<b>1.</b>
Applicat	ion Papers		
10)	The specification is objected to by the Examine The drawing(s) filed on is/are: a) accelerate accelerate any not request that any objection to the Replacement drawing sheet(s) including the correct The oath or declaration is objected to by the Examine	epted or b) objected to by the drawing(s) be held in abeyance. So ion is required if the drawing(s) is o	ee 37 CFR 1.85(a). bjected to. See 37 CFR 1.121(d).
Priority (	under 35 U.S.C. § 119	•	
а)	Acknowledgment is made of a claim for foreign  All b) Some * c) None of:  1. Certified copies of the priority documents 2. Certified copies of the priority documents 3. Copies of the certified copies of the priority application from the International Bureau See the attached detailed Office action for a list	s have been received. s have been received in Applica rity documents have been received. u (PCT Rule 17.2(a)).	ition No ved in this National Stage
Attachmen	·		
2)  Notice 3) Infor	ce of References Cited (PTO-892) ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO-1449 or PTO/SB/08) er No(s)/Mail Date	4) Interview Summal Paper No(s)/Mail   5) Notice of Informal 6) Other:	

Claims 155-176 are pending, with claims 159-160, 175 remaining withdrawn due to a previously set forth restriction requirement.

## Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/22/06 has been entered.

### Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 3. Claims 155, 158, 161-165, 169-172, 176 are rejected under 35 U.S.C. 102(b) as being anticipated by Hellerich (US 3,854,347). (As per claim 155) Hellerich discloses (see FIGs. 2-5) a self-compensating dynamic balancer apparatus for a disk player which records and reproduces information from a disk installed on the disk player; the apparatus comprising: a self-compensating dynamic balancer 50 locatable co-axial with the rotation axis about which a disk is rotated by rotational components of the disk player and rotates in use with at least one of the rotational components; a mobile unit 52 arranged to be freely movable within a non-magnetic

hollow tube (see col. 3, line 58-col 4, line 6) by centrifugal force generated by rotation of the disk such that the center of gravity of the self-compensating dynamic balancer moves to be located opposite to the center of gravity of the disk with respect to the rotation axis (which is basic balancing theory well known in the art-see also col. 1, line 63-col. 2, line 10); wherein the mobile unit includes at least one rigid body 52; (as per claim 158) wherein the tube is formed of a body having a race in which the mobile unit is disposed and a cover member which covers the race by coupling to the body, i.e., the body and cover are integrally formed in Hellerich; (as per claim 161) wherein the rigid body is formed into a shape of a spherical body which can roll inside the race (col. 3, line 60); (as per claims 162, 163, 165) wherein the rigid body is formed of a non-magnetic material, e.g., stainless steel (one of SUS300, SUS304, SUS316), in order to avoid being influenced by a magnetic force (see col. 3, line 66); (as per claim 164) wherein the substance, e.g., stainless steel, does not corrode; (as per claim 169) wherein the cross section of the tube enclosing the mobile unit has a shape of rectangular or oval (see FIG. 5 and col. 4, line 48); (as per claims 170, 171 & 172) wherein the tube enclosing the mobile unit is synthetic resin, e.g., plastic (see col. 3, last line), which does not corrode; (as per claim 176) wherein the selfcompensating dynamic balancer is formed integrally with the turntable 12 (see FIG. 2).

# Claim Rejections - 35 USC § 103

- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

- Claims 156, 157, 168 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hellerich in view of Taylor et al (WO 93/23687). For a description of Hellerich, see the rejection, supra. Hellerich is silent as to having a fluid within the hollow tube. Taylor et al, within the rotational balancing art, discloses a self-compensating dynamic balancer that includes a hollow tube 11, spherical balls 21 and fluid 107 (see FIGs 11&12 and page 16, line 15 thru page 18, line 9). From this teaching, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the selfcompensating dynamic balancer of Hellerich with a fluid, as taught by Taylor et al. The motivation would have been: providing a fluid into the hollow tube with the balls, would have enabled the balls to move within the groove at a slower rotational speed, thereby providing a smoother balancing apparatus. Furthermore, the fluid would also provide an inherent dampening effect to the noise of the rotating balls within the hollow tube as well as providing a reduction in friction, as would have been readily apparent to a skilled artisan.
- 7. Claims 166-167, 173-174 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hellerich. For a description of Hellerich, see the rejection, supra. With respect to the above claims, Hellerich is expressly silent as to coating the rigid body and/or the hollow tube with an anti-oxidation coating, however, it would have been considered obvious to a skilled artisan to have provided such coating, especially if the components, i.e., tube, balls, were originally formed

from a corrosive material. As would have been readily apparent, providing such a coating would have prevented corrosion to these components, providing longevity thereof. If provided over the materials as disclosed by Hellerich, such a coating would provide inherent lubrication characteristics, as would have been readily apparent by a skilled artisan.

#### Response to Arguments

8. Applicant's arguments filed 11/22/06 have been fully considered but they are not persuasive.

A...Applicants' assert that Hellerich fails to teach an aspect of the claim, which is described as the last clause of the claim:

"... wherein said mobile unit is arranged to be freely movable within said non-magnetic hollow tube by centrifugal force generated by rotation of said disk such that the center of gravity of said self-compensating dynamic balancer moves to be located opposite to the center of gravity of said disk with respect to said rotation axis."

And further states, "In other words, Hellerich does not teach how the disc pack assembly 10 is balanced beyond simply attaching to the assembly 10 the balancing ring or tube 50 having the mass members 52. Specifically, Hellerich fails to disclose how the mass members 52 are arranged within the tube 50.

In response, the Examiner respectfully disagrees that Hellerich does not teach this limitation.

The structural limitation needed to meet the claimed function is "said mobile unit arranged to be freely movable within said non-magnetic hollow tube..." which is clearly met by Hellerich. The Examiner maintains that the claimed function (as cited above) is an inherent result of the freely movable bodies within the hollow member when coaxially mounted with the spindle shaft, as

clearly taught by Hellerich. It is noted that the cited passage the Examiner relied upon is col. 1, line 63 to col. 2, line 2, not col. 3, line 58 to col. 4, line 6, as set forth by the applicant.

The claims do not set forth any additional structure that would somehow operate any differently then the balancing apparatus as disclosed by Hellerich.

**B...**As no specific arguments have been set forth regarding the rejected claims 156-158, 161-174, 176, the Examiner maintains that they are also anticipated/obvious over Hellerich, as set forth, supra.

#### Conclusion

- 9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP Patent document to Araki (62024052) is considered to discuss the conventional balancing operation with freely movable objects within a circular chamber including centrifugal force acting on the balls and shifting the center of gravity, as well known in the art.
- 10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (571) 272-7578. The examiner can normally be reached on M-TH 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <a href="http://pair-direct.uspto.gov">http://pair-direct.uspto.gov</a>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian E. Miller Primary Examiner Art Unit 2627

BEM March 14, 2007